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Sughrue Mion Zinn Macpeak & Seas PLLC
2100 Pennsylvania Avenue NW
Washington, DC 20037-3202

EXAMINER

RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 01/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/544,544

Applicant(s)

UCHINO, ATSUSHI

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-9 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9,13-15 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1, 2, 4-9, 13-15, and 17 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4, 5, 7, 13, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. (USPN 6,401,124) in view of Bion (USPN 6,097,718).
4. Regarding claims 1, 5, and 7, Yang discloses a node-search method and device in a network, comprising: a client (ref. 14) of a first domain (sub-network), sending a broadcast packet (search request), for requesting a response from a node (ref. 20: server) which provides a specific service (ref. 18: peripheral), to at least any one of said plurality of domains (other sub-networks) other than the first domain which is listed in routing information (col. 2, lines 26-33 and col. 2, lines 42-46); and receiving a response packet for said broadcast packet and detecting the node which sent the response packet (col. 1, lines 45-54).

Yang does not expressly disclose that the client of a first domain acquires a packet which includes routing information of a network configured with a plurality of domains including, the first domain connected to at least one interworking unit. However, Yang suggests that the client uses routing information to perform the broadcast search since the client can direct a search to a

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specific sub-network (col. 2, lines 26-33 and col. 2, lines 42-46). Yang also discloses that the network can have a plurality of sub-networks (col. 2, lines 28-33). Bion teaches, in a packet communication system, having a client (ref. 112) of a first domain acquire a packet (routing information) which includes routing information of a network configured with a plurality of domains including, the first domain connected to at least one interworking unit (ref. 103: router) in order to update dynamic routes (col. 3, lines 29-31 and col. 3, lines 42-65). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the client of a first domain acquire a packet which includes routing information of a network configured with a plurality of domains including, the first domain connected to at least one interworking unit in order to update dynamic routes.

Yang in view of Bion does not expressly disclose implementing the process by a program in a computer-readable storage medium; however, Examiner takes official notice that implementing a method in software is very well known.

5. Regarding claims 4 and 13, Yang implicitly discloses a node-search method in a network, comprising the steps of: a client device (ref. 14), acquiring information indicating a network number and an address of an interconnecting node of each domain (sub-networks) in the network (col. 2, lines 26-33 and col. 2, lines 42-46); and the client device, broadcasting, based on said acquired information, into a specific network (particular sub-network) so as to search for a node (ref. 20: server), (col. 2, lines 26-33 and col. 2, lines 42-46).

Yang does not expressly disclose a client device, receiving a RIP (Routing Information Protocol) packet; the client device, acquiring information from said received RIP packet; and using a router for an interconnecting node. However, Yang suggests that the client uses routing

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information to perform the broadcast search since the client can direct a search to a specific sub-network (col. 2, lines 26-33 and col. 2, lines 42-46). Yang also discloses that the network can have a plurality of sub-networks (col. 2, lines 28-33). Bion teaches, in a packet communication system, having a client device, receive a RIP (Routing Information Protocol) packet and the client device, acquire information from said received RIP packet (col. 3, lines 29-31; col. 3, lines 42-65; and col. 5, lines 45-46) where it is implicit that RIP is a well-known protocol. Bion also teaches using routers to interconnect networks (col. 3, lines 29-31). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have a client device, receive a RIP (Routing Information Protocol) packet and the client device, acquire information from said received RIP packet in order to have the client acquire the routing information which it uses to perform the broadcast search. It also would have been obvious to one of ordinary skill in the art at the time of the invention to use a router for the interconnecting node since routers couple multiple networks.

Yang in view of Bion does not expressly disclose broadcasting to a specific domain using a specific port number; however, Examiner takes official notice that it is well known in the art to use specific port numbers to broadcast to a specific domain since each network domain is connected to the internetworking unit via a specific port. Yang in view of Bion also does not expressly disclose implementing the process by a program in a computer-readable storage medium; however, Examiner takes official notice that implementing a method in software is very well known.

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6. Regarding claim 15, referring to claim 1, Yang in view of Bion discloses that a plurality of interworking units exist in the network, wherein at least one of said plurality of interworking units is a bridge, a brouter, or a router (Bion: col. 3, lines 27-31).

7. Regarding claim 17, referring to claim 1, Yang in view of Bion discloses that the node-search method further comprising: first sending the broadcast packet to at least one of said plurality of domains with a hop count less than a specified number (Bion: col. 3, lines 29-31 and col. 3, lines 42-65) where “a specified number” can be any number such that any particular network receiving a broadcast packet would be less than a specified number of hops away.

8. Claims 2, 6, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. (USPN 6,401,124) in view of Bion (USPN 6,097,718) in further view of Gifford (USPN 6,052,718).

9. Regarding claims 2, 6, and 8, Yang discloses a node-search method and device in a network, the method comprising the steps of and the device comprising means for: sending a broadcast packet (search request), for requesting a response from a node (ref. 20: server) that provides a specific service (ref. 18: peripheral), from a client device (ref. 14) to at least any one of said plurality of domains (other sub-networks) other than said first domain (col. 2, lines 26-33 and col. 2, lines 42-46); and receiving, in said client device, a response packet in response to said broadcast packet, and detecting the node which sent the response packet (col. 1, lines 45-54).

Yang does not expressly disclose receiving a packet, by the client device, the packet containing routing information from the network, which is connected to an interworking unit, from the interworking unit, where the interworking unit is capable of storing routing information set in advance. However, Yang suggests that the client uses routing information to perform the

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broadcast search since the client can direct a search to a specific sub-network (col. 2, lines 26-33 and col. 2, lines 42-46). Yang also discloses that the network can have a plurality of sub-networks (col. 2, lines 28-33). Bion teaches, in a packet communication system, receiving a packet (routing information), by the client device (ref. 112), the packet containing routing information from the network, which is connected to an interworking unit (ref. 103: router), from the interworking unit, where the interworking unit is capable of storing routing information set in advance in order to update dynamic routes (col. 3, lines 29-31 and col. 3, lines 42-65). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to receive a packet, by the client device, the packet containing routing information from the network which is connected to an interworking unit, from the interworking unit, where the interworking unit is capable of storing routing information set in advance in order to update dynamic routes.

Yang in view of Bion does not expressly disclose sending a packet, for requesting routing information. However, Yang in view of Bion discloses that the client device initially receives routing information, but Yang in view of Bion does not expressly disclose how this routing information is initially received (Bion: col. 3, lines 47-52). Gifford teaches, in a packet communication system, sending a packet, for requesting routing information, in order to initially obtain routing information (col. 4, lines 19-41). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to send a packet, for requesting routing information, in order to initially obtain routing information.

Yang in view of Bion in further view of Gifford does not expressly disclose implementing the process by a program in a computer-readable storage medium; however, Examiner takes official notice that implementing a method in software is very well known.

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10. Regarding claim 9, referring to claim 8, Yang in view of Bion in further view of Gifford discloses that the interworking unit is a router (Bion: col. 3, lines 29-31).

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. (USPN 6,401,124) in view of Bion (USPN 6,097,718) in further view of Ahearn et al (USPN 5,926,463).

12. Regarding claim 14, Yang implicitly discloses a process of acquiring information indicating a network number and an address of an interconnecting node of each domain (sub-network) of said plurality of domains including the first domain in the network (col. 2, lines 26-33 and col. 2, lines 42-46); a process of broadcasting into at least any one of said plurality of domains (other sub-networks) other than the first domain, based on said acquired information so as to search for a node (ref. 20: server) wherein said computer is a client device (ref. 14) (col. 2, lines 26-33 and col. 2, lines 42-46).

Yang does not expressly disclose a process of receiving a packet from at least one router of a network configured with a plurality of domains including the first domain and a process of acquiring information from the received packet. However, Yang suggests that the client uses routing information to perform the broadcast search since the client can direct a search to a specific sub-network (col. 2, lines 26-33 and col. 2, lines 42-46). Yang also discloses that the network can have a plurality of sub-networks (col. 2, lines 28-33). Bion teaches, in a packet communication system, having a process of receiving a packet from at least one router of a network configured with a plurality of domains including the first domain and a process of acquiring information from the received packet in order to update dynamic routes (col. 3, lines 29-31 and col. 3, lines 42-65). Thus, it would have been obvious to one of ordinary skill in the

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art at the time of the invention to have a process of receiving a packet from at least one router of a network configured with a plurality of domains including the first domain and a process of acquiring information from the received packet in order to update dynamic routes.

Yang in view of Bion does not expressly disclose that the packet is an SNMP packet. However, it is well known in the art to use packets to allow interface nodes, such as routers, to update their network maps using SNMP packets in order to have the maps accurately reflect any changes in the network, as is evidenced by Ahearn (col. 12, lines 3-9). It would have been obvious to one of ordinary skill in the art at the time of the invention to receive an SNMP packet which includes routing information in which a domain in the network is listed in order to ensure that all interface nodes have an accurate map of the networks which the interface nodes are connecting.

Yang in view of Bion in further view of Ahern does not expressly disclose broadcasting to a specific domain using a specific port number; however, Examiner takes official notice that it is well known in the art to use specific port numbers to broadcast to a specific domain since each network domain is connected to the internetworking unit via a specific port. Yang in view of Bion also does not expressly disclose implementing the process by a program in a computer-readable storage medium; however, Examiner takes official notice that implementing a method in software is very well known.

Allowable Subject Matter

13. Claim 16 is allowed. The prior art does not disclose or fairly suggest sending the first broadcast to the domain with the fewest hop counts.

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Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Baratz et al (USPN 4,914,571) see entire document which discloses that any node can initiate a search (col. 2, lines 28-37) and that a node acquires routing information through searches, where a search would necessitate sending a request for information (col. 5, lines 17-45, esp. col. 7, lines 31-34).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel J. Ryman
Examiner
Art Unit 2665

DJR


HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600